



[6450-01-P]

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

Wind Plant Performance—Public Meeting on Modeling and Testing Needs for Complex Air Flow Characterization

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy (DOE).

ACTION: Notice of public meeting.

SUMMARY: This notice announces a public meeting for interested parties to provide DOE information on modeling needs and experimental validation techniques for complex flow phenomena in and around off-shore and on-shore utility-scale wind power plants. DOE is requesting this information to support the development of cost-effective wind power deployment.

DATES: The meeting will be held Tuesday, January 17, 2012, from 7:30 a.m. to 5:00 p.m., and Wednesday, January 18, 2012, 7:30 a.m. to 5:00 pm.

ADDRESSES: University Memorial Center at the University of Colorado, Boulder, 1669 Euclid Avenue, Boulder, CO 80309

FOR FURTHER INFORMATION CONTACT: Mark Higgins at mark.higgins@ee.doe.gov.

EE-2B, 1000 Independence Ave, SW Washington, DC 20585

SUPPLEMENTARY INFORMATION:

The purpose of the meeting is for DOE to obtain input on existing gaps and future opportunities in regards to complex flow modeling and experimental validation. Ultimately, research in this area may lead to significant improvements in wind plant efficiency and performance, leading to a reduced cost of energy for wind power. The meeting is an opportunity for participants to provide, based on their individual experience, information and facts regarding this topic. It is not the object of this session to obtain any group position or consensus. Rather, DOE is seeking as many recommendations as possible from all individuals at this meeting.

The public meeting will consist of an initial plenary session in which invited speakers will survey available information and needs for various applications related to complex flow modeling and validation testing. For the remainder of the meeting, breakout groups will be used to provide participants an opportunity to present to DOE information on specific areas regarding existing gaps in observations and computational products. These groups will be an opportunity to provide comment on information needs for the following topics:

1. Wind Turbine Scale Modeling and Validation Requirements

Participants will examine inflow and outflow characteristics in the vicinity of a single wind turbine, as well as the implications for aerodynamic loading of the rotor and overall structure. Several temporal and spatial scales shall be considered.

2. Wind Plant Scale Modeling and Validation Requirements

Participants will examine complex aerodynamic phenomena in, around, and through wind

plants, including turbine-wake interaction, wake-wake interaction, complex terrain, and turbulence effects. Several temporal and spatial scales shall be considered.

3. **Regional Scale Modeling and Validation Requirements**

Participants will examine the meteorological effects at the regional, multi-wind plant scale. This exploration of atmospheric science topics shall include model nesting, long-term data collection requirements, and down-wind effects of wind plants.

4. **Experimental Data Validation Techniques**

Participants will examine the requirements for, as well as the feasibility and efficacy of, existing and future experimental techniques for cost effective, high fidelity data collection. Both field and laboratory experiments will be explored.

This meeting is intended to collect information from individuals involved in planning, deployment, operation, and regulation of wind energy projects, individuals involved in meteorological and oceanic disciplines relevant to offshore and onshore wind energy, and interested members of the public. However, the meeting will not focus on environmental impact or management issues, which are being addressed by separate efforts. While participation is open to all interested parties, the breakout structure of the meeting will limit its overall size to about 80 participants. When the meeting is fully subscribed, registration will be closed.

Please email Raphael Tisch at Raphael.Tisch@ee.doe.gov with registration inquiries.

Tentative Agenda (Subject To Change)

Day 1

7:30 a.m. – 8:00 a.m.	Registration and Continental Breakfast
8:00 a.m. – 8:30 a.m.	Plenary Session #1: Welcome and Introduction

8:30 a.m. – 9:30 a.m.	Plenary Session #2: Overview of Break-Out Group Topics
9:30 a.m. – 10:00 a.m.	Form Break-Out Groups
10:00 a.m. – 10:20 a.m.	Break
10:20 a.m. – 12:00 p.m.	Break-Out Group Session #1: Sub-topic Issue
12:00 p.m. – 1:00 p.m.	Lunch
1:00 p.m. – 3:00 p.m.	Break-Out Group Session #2: Sub-topic Issue
3:00 p.m. – 3:20 p.m.	Break
3:20 p.m. – 5:00 p.m.	Break-Out Group Session #3: Open Comments

Day 2

7:30 a.m. – 8:00 a.m.	Registration and Continental Breakfast
8:00 a.m. – 8:30 a.m.	Plenary Session: Day 1 Progress Report
8:30 a.m. – 9:30 a.m.	Break-Out Group Session #4: Wrap-up Comments
9:30 a.m. – 10:00 a.m.	Break-Out Group Session #5: Prep for Plenary Discussion
10:00 a.m. – 10:20 a.m.	Break
10:20 a.m. – 12:00 p.m.	Plenary Session #3: Break-Out Group Overviews
12:00 p.m. – 1:00 p.m.	Lunch
1:00 p.m. – 3:00 p.m.	Plenary Session #4: Open Comments and Q&A
3:00 p.m. – 3:20 p.m.	Break
3:20 p.m. – 5:00 p.m.	Plenary Session #3: Summary

Registration and Accommodations

A room-block for meeting participants has been established at the Boulderado, the Boulder Marriott, and Millennium Harvest House.

Issued in Washington, DC, on December 27, 2011.

Jose Zayas

Program Manager

Wind and Hydropower Technologies

Energy Efficiency and Renewable Energy

Department of Energy